

Information and Tips – Beginner's how to solder.

By Jim Horton WB8YWA

Taking the time to learn basic soldering skills will enhance your ham radio hobby. Weather it is repairing a coax connector, wiring up a 12 dc power cord, repairing your mic cable. Soldering is and should be a part of your activities. With the right solder, the correct iron and a few other items you can learn this skill and with just a little practice be able to perform good and correct solder connections.

The Tools you will need for this.

- Soldering devices.
 - Pencil type with fine pointed tip
 - Can be used to solder most ham related task as coax connectors, power leads and most general type soldering.



- Soldering Station (as above except has heat control of tip).
 - Can be used as above unit but can also be used for fine wire and small lead components and circuit board joints. Needed with soldering cloth microphone cable and low heat.



- Soldering Gun
 - Used for soldering outside, larger conductor wire and windy conditions.



- Butane soldering device.
 - Great for portable, outside and is heat adjustable.
 - Need to keep extra butane on hand and filling will be required.



Note: There are many more styles of irons and can range from cost of a few dollars to hundreds of dollars.

- Solder - Here is a link to take you to <https://en.wikipedia.org/wiki/Solder> for a description.
 - Solder is expensive.
 - It is sold by weight in ounces or pounds.

Here are some images;



My favorite all around solder size and type for my work bench is .031" diameter and has a rosin core of 60/40. It is lead free.

Cost of solder for 4 oz. is \$13.41 at Amazon for this 60/40 .031" solder.



For electrical and electronics you need a rosin core solder which applies a flux to bond the solder to the metal of the wire or lead.

Keeping the soldering iron tip clean all the time. It is important that the tip of the soldering iron is clean. Here are some added items to help in doing this. One note, clean your tip each time you solder and while soldering re clean it often. I whip tip on wet sponge each joint I make.



Wet Sponge



Copper Brillo Pad



Solder

To clean the tip is a very easy process if you have the three above items, wet sponge and solder is the two most important. When tip is hot simple wipe all sides of the tip in the wet sponge and tin with solder on the tip. For stubborn dirty tips insert tip into brillo pad a few times, then wet sponge and tin the tip with solder.

- De-soldering. Just as important in soldering a good connection is the art of removing a device or the proper method of DE soldering.

Here are some images of the different tools and items to help us with this task.



Suction Bulb



Suction Tube



De Soldering Braid

Squeeze Bulb that pulls melted solder into the inside of the bulb when pressure is release. Suction tool which has plunger. When spring is push down and latch a release button is engaged. When push spring returns to normal pulling the melted solder up into its chamber. Desoldering braid (which is best for cleaning circuit boards), when heated and place onto the solder connection it pulls the solder into the mat of the braid.

- Other needed tools to support you while soldering or de soldering.



Helping Hands



Small Heavy Vise



Wire Cutters



Small Needle Nose

Now that we have gathered our tools and items and before we start let us look at this video I found that covers the beginning basics and some good tips on solders and even some de soldering.

We are so blessed now to have YouTube videos on how to do anything today. When I started in the 1970's I had the Heathkit manual which was good, but nothing like a live video. Below are a couple of really good ones. After going through them, you need to practice, practice and practice some more.

Go to these video now –

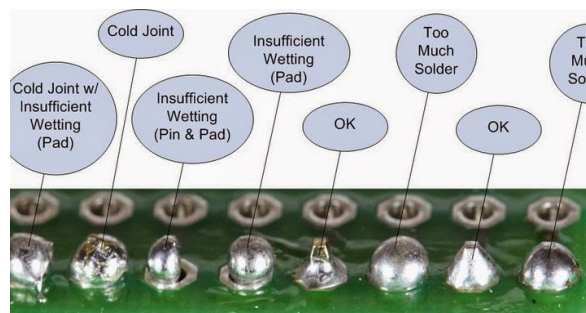
<https://www.youtube.com/watch?v=Qps9woUGkvl> Beginning soldering

<https://www.youtube.com/watch?v=oqV2xU1fee8> Beginning soldering

<https://www.youtube.com/watch?v=2VlvjdaMARM> Cleaning Tip

Hope you find that soldering is an art you can learn with some practice. For more help please come to the LARA Club meeting on June 16, 2018, bring your soldering gun, solder and something that you would like to solder. Can be coax cable to a PL-259, a circuit board with some components or as simple as two wires in a power cable. We will have best techniques one on one sessions.

Here is a sample of good and bad solder joints.



Items to bring to meeting if you want hands on lesson for soldering.

1. Your soldering iron
2. Your method to keep the tip clean
3. Your solder
4. Any tools to help you solder or de solder
5. What you want to solder
6. Safety Glasses